

Serial No. 10/693,844

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Docket No. 02-05

IN THE ABSTRACT:

Please replace the existing Abstract with the following Abstract.

An imaging spectropolarimeter ~~is provided~~ for measuring the polarization and spectral content ~~as well as and~~ the spatial signature of a target scene. The imaging spectropolarimeter ~~may include~~ includes an objective optic for receiving an electromagnetic signal and a modulator ~~optically connected with the objective optic for modulating the electromagnetic signal whereby a modulated electromagnetic signal results wherein the~~ The amplitude of each frequency component of the resulting modulated electromagnetic signal is a function of the particular polarization state of each frequency component of the electromagnetic signal. A linear polarizer ~~may be configured to pass~~ passes a single polarization of the modulated electromagnetic signal through ~~an output thereof. A~~ to a tunable filter ~~may be optically connected to receive the single polarization of the electromagnetic signal and may be, which is~~ which is tunable through a frequency spectrum. The tunable filter ~~may be configured to output~~ outputs a plurality of electromagnetic signal samples at predetermined frequency increments. A focal plane array ~~may be configured to receive~~ receives each electromagnetic signal sample and ~~output~~ outputs a spectrum signal and a processor ~~may be configured to apply~~ applies Fourier transformation to the spectrum signal to obtain at least one Stokes polarization vector component for each pixel within the scene.